



University of California, Santa Barbara  
Program Learning Outcomes

## PhD in Electrical and Computer Engineering

***Upon graduation with a PhD in Electrical and Computer Engineering:***

*Core Knowledge*

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- Students should demonstrate broad knowledge in at least two broad areas of Electrical and Computer Engineering, including Computer Engineering, Electronics and Photonics, Communication, Signal Processing, and Control.
- Students should demonstrate significant expertise in one area of Electrical and Computer Engineering.

*Research Methods and Analysis*

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- Students should master qualitative and quantitative analysis tools relevant to their area of specialization.
- Students should be able to perform a critical analysis of technical literature in their area of specialization.

*Scholarly Communication*

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- Students should be able to review and synthesize the literature in their area of specialization.
- Students should be able to write technical papers that communicate their findings to an audience of peers.
- Students should demonstrate their ability to communicate orally their results to their peers.

*Independent Research*

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- Students should be able to plan and execute an original research project, analyze the relevant findings, and organize their results into a coherent argument.
- Students should produce scholarship that is comparable in scope and format to articles, books, and conference papers that appear in leading peer reviewed venues and presses in their area of specialization.